FIG.1

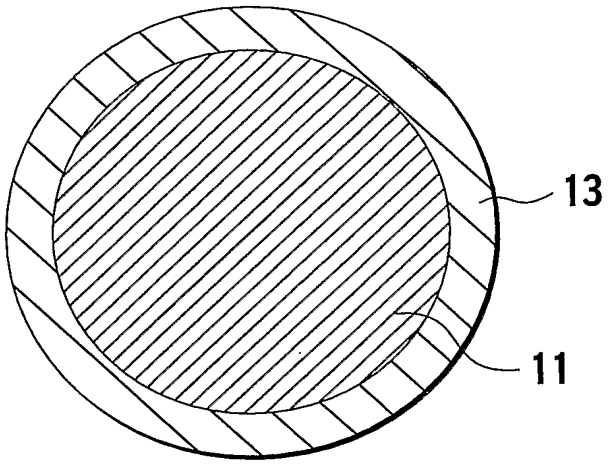

FIG.2

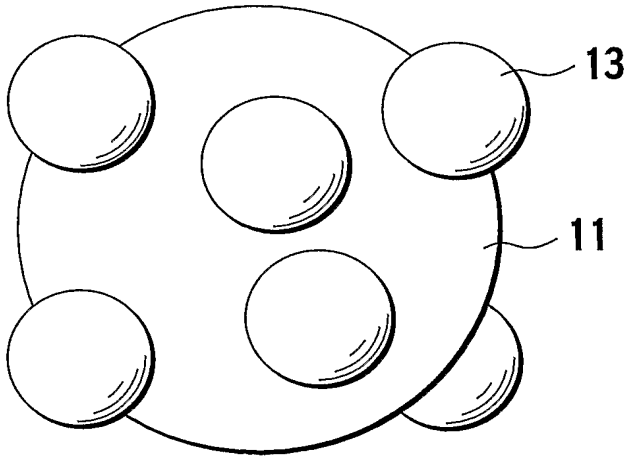

FIG.3

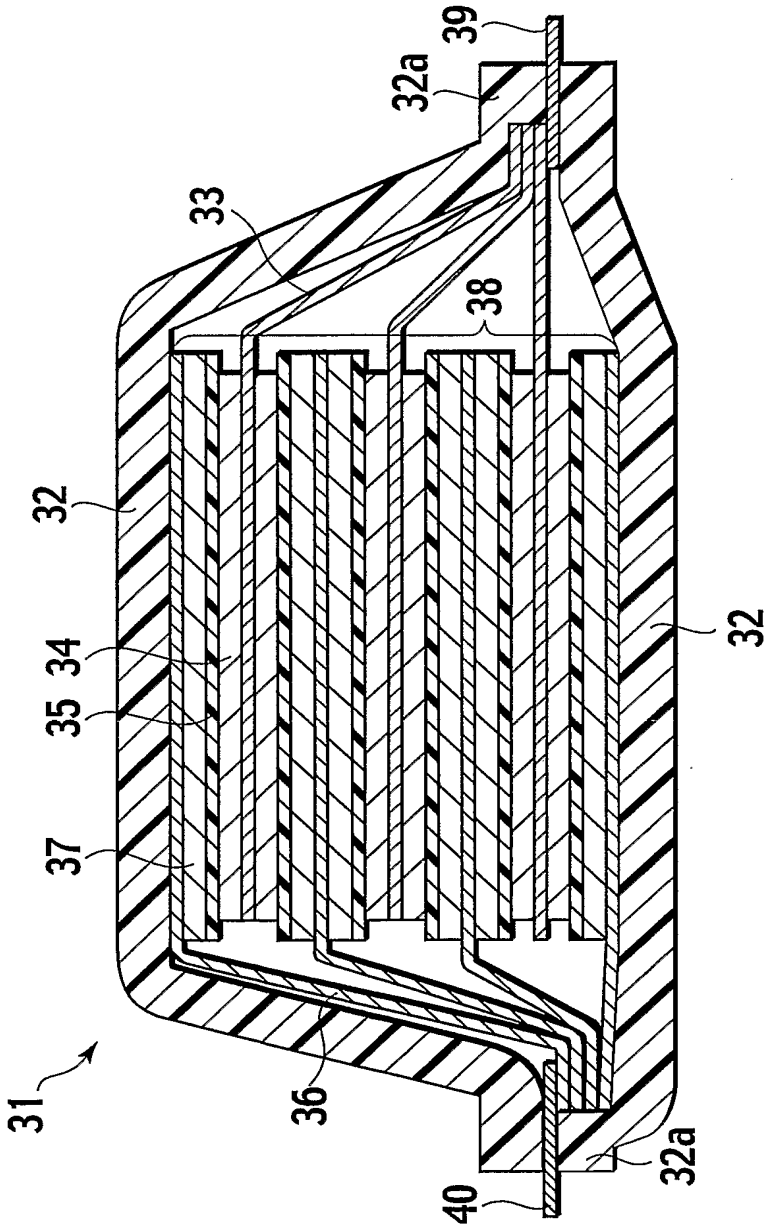

FIG.4

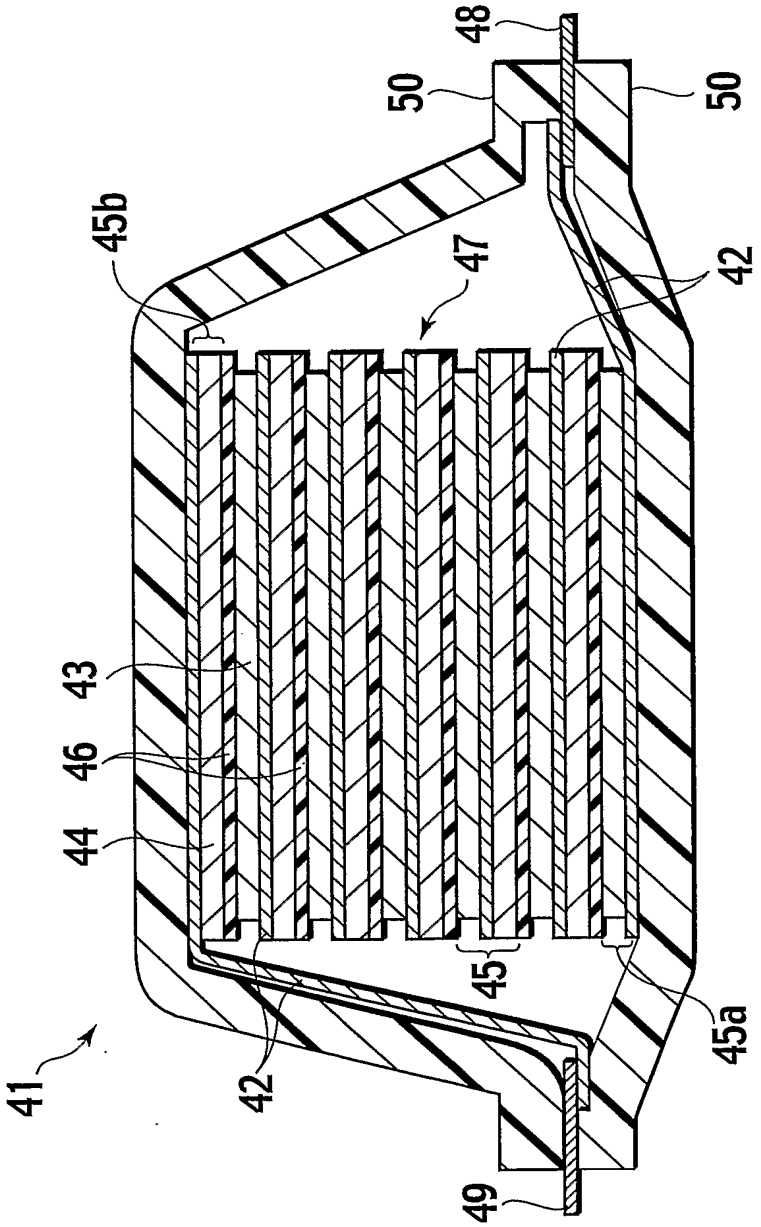

FIG.5A

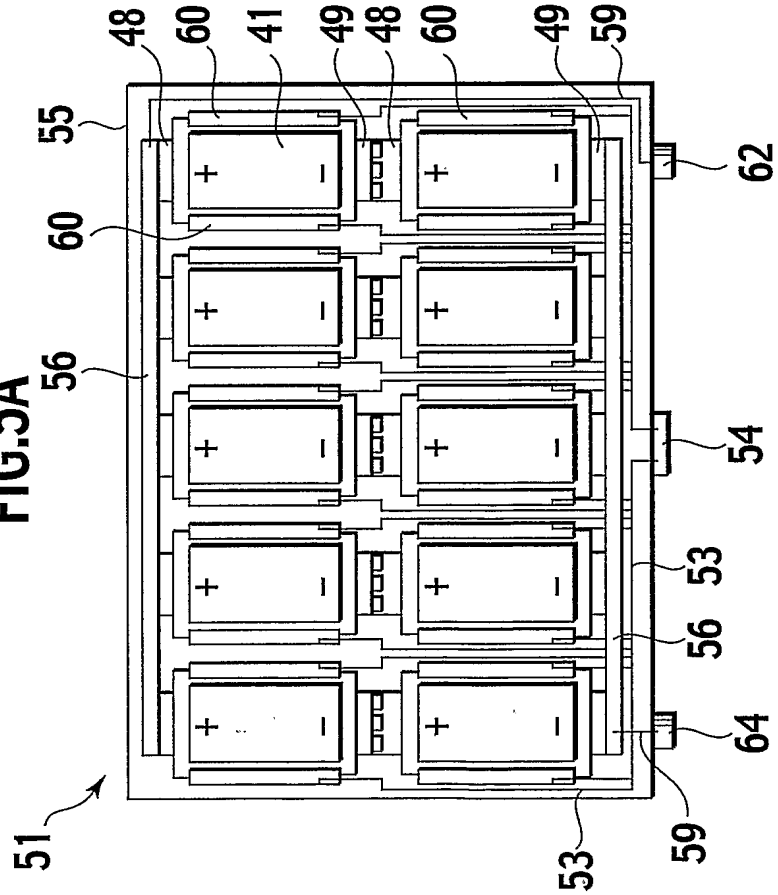

FIG.5B

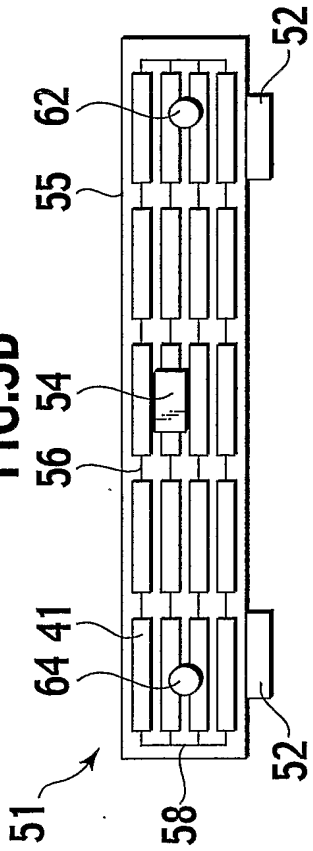

FIG.5C

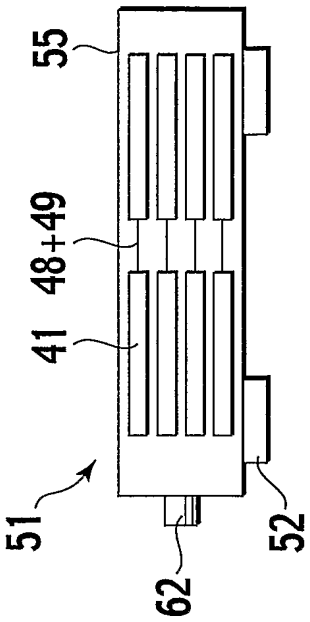

FIG.6A

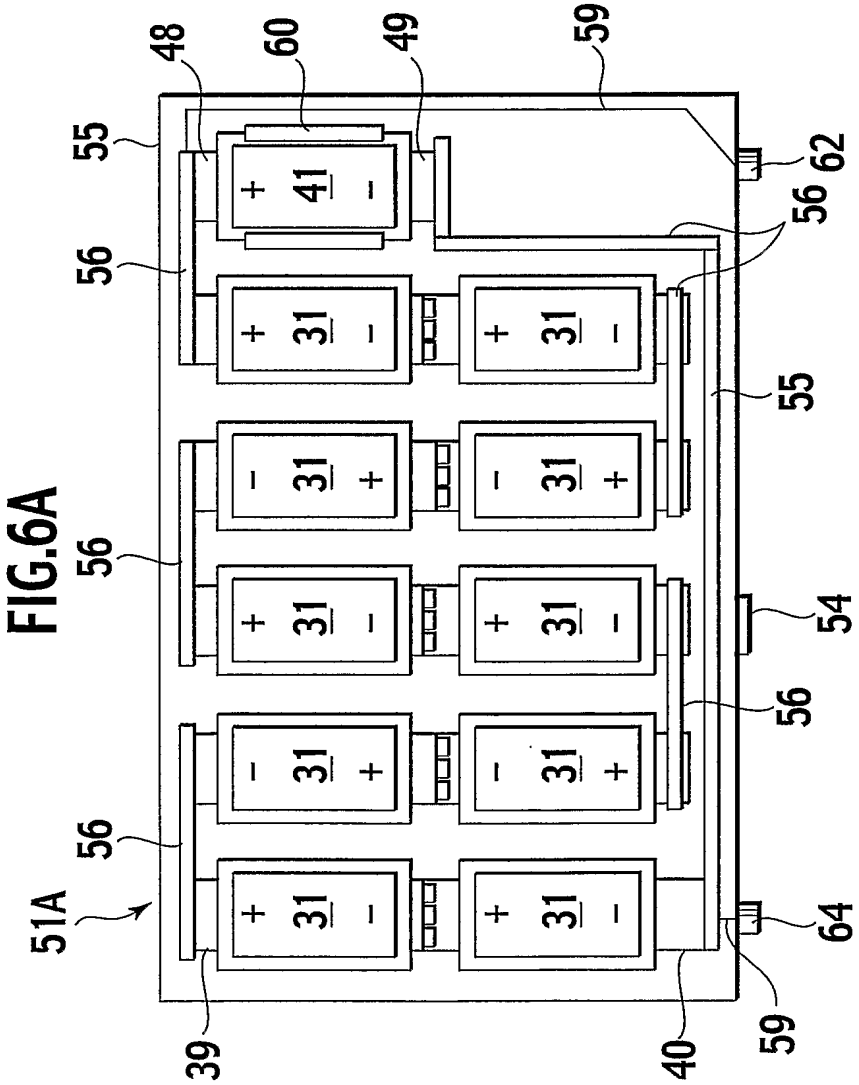

FIG.6B

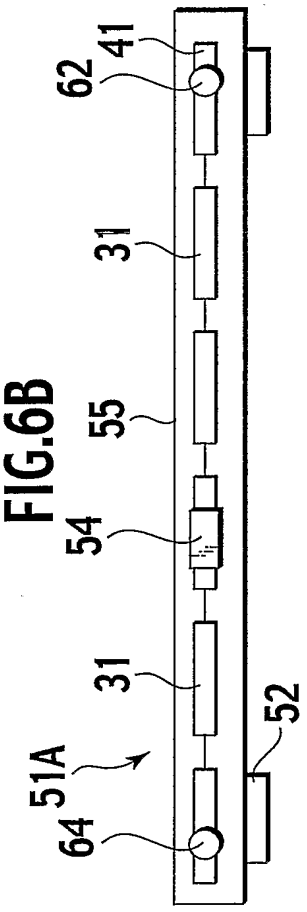

FIG.6C

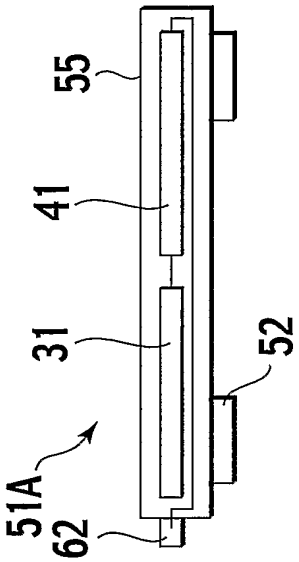

FIG.7A

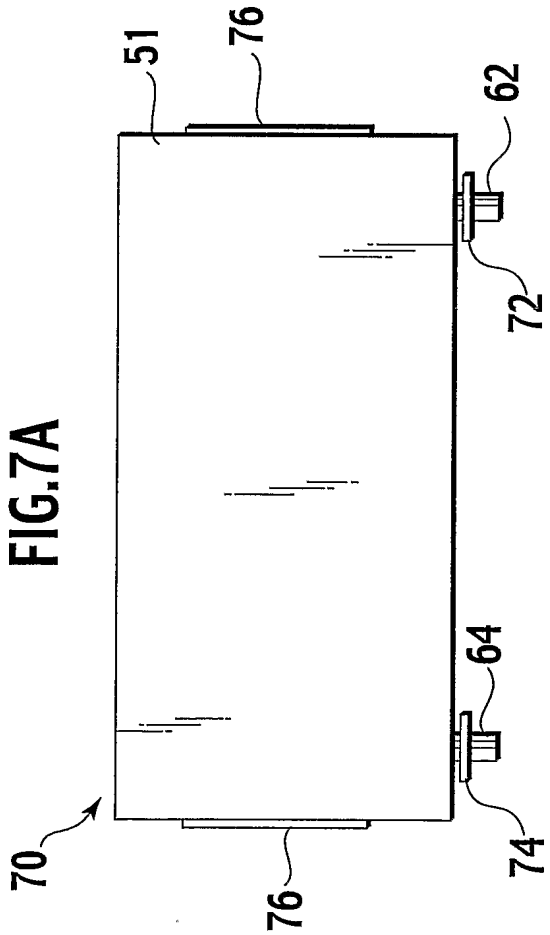

FIG.7B

FIG.7C

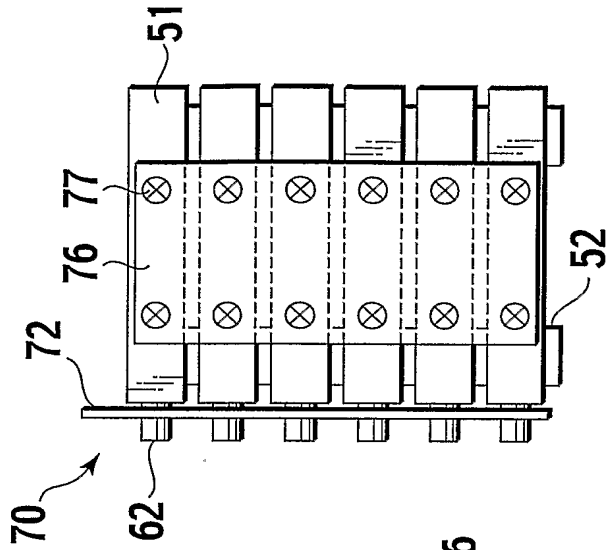

FIG.8

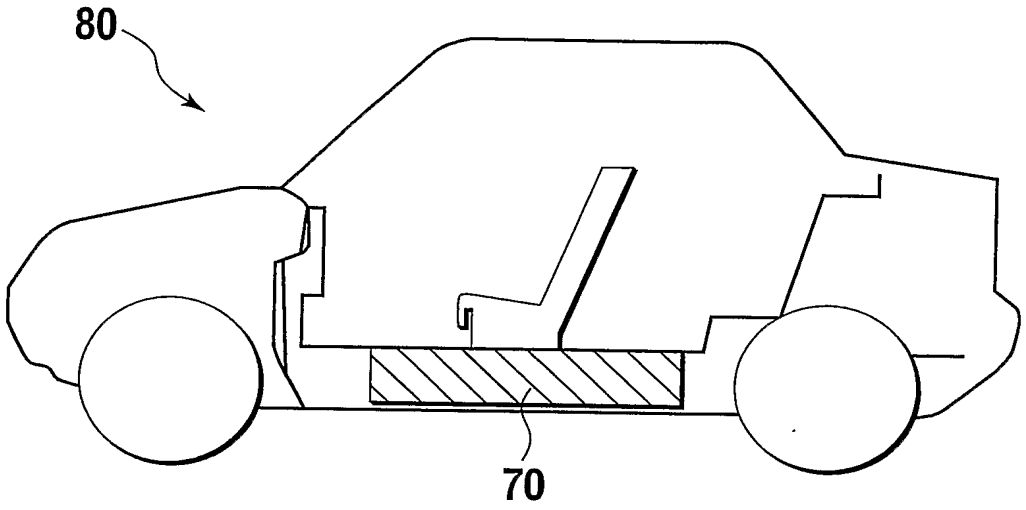

FIG.9

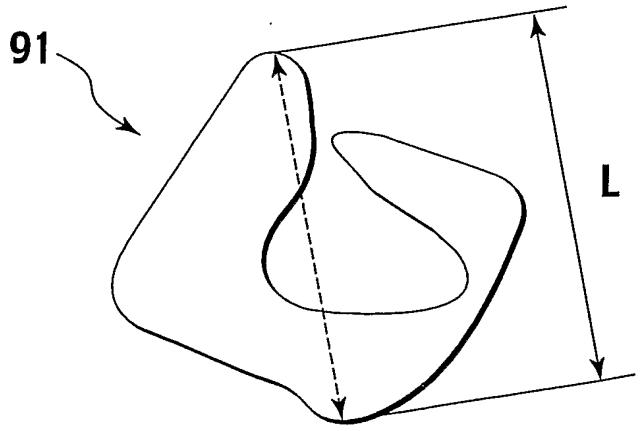

FIG.10

	TYPE OF LiNi OXIDE COMPOSITE USED IN POSITIVE ELECTRODE ACTIVE MATERIAL	Li COMPOUND DEPOSITED	THICKNESS OF Li COMPOUND DEPOSITED(nm)	SWELL RATE OF CELL (%)	CELL'S INTERNAL RESISTANCE INCREASE RATE (%)
EXAMPLE 1	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM PHOSPHATE	500	3	1.5
EXAMPLE 2	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	$Li_{2.9}PO_{3.3}N_{0.36}$	500	2	1.6
EXAMPLE 3	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	Li_2O-B_2O_3	500	2	1.4
EXAMPLE 4	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	Li_2O-B_2O_3-LiI	500	3	1.5
EXAMPLE 5	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	Li_2S-SiS_2	500	3	1.7
EXAMPLE 6	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	Li_2S-SiS_2-Li_3PO_4	500	3	1.6
EXAMPLE 7	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM COBALTATE	500	2	1.4
EXAMPLE 8	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM MANGANATE	500	2	1.4
EXAMPLE 9	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	$LiFePO_4$	500	3	1.7
EXAMPLE 10	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM HYDROXIDE	500	3	1.5
EXAMPLE 11	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM FLUORIDE	500	3	1.6
EXAMPLE 12	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM ACETATE	500	2	2.3
EXAMPLE 13	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM ACETYLIDE-ETHYLENEDIAMINE	500	3	2.2
EXAMPLE 14	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM BENZOATE	500	1	2.4
EXAMPLE 15	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM BROMIDE	500	2	2.5
EXAMPLE 16	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM CARBONATE	500	2	2.3
EXAMPLE 17	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM NITRATE	500	1	2.2
EXAMPLE 18	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM OXALATE	500	3	2.5
EXAMPLE 19	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM PYRUVATE	500	1	2.6
EXAMPLE 20	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM STEARATE	500	1	2.3
EXAMPLE 21	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM TARTRATE	500	1	2.3
EXAMPLE 85	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM SULFATE	500	1	2.1
COMPARATIVE EXAMPLE 1	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	NONE	-	15	2.7

FIG.11

	TYPE OF LiNi OXIDE COMPOSITE USED IN POSITIVE ELECTRODE ACTIVE MATERIAL	Li COMPOUND DEPOSITED	THICKNESS OF Li COMPOUND DEPOSITED(nm)	SWELL RATE OF CELL (%)	CELL'S INTERNAL RESISTANCE INCREASE RATE (%)
EXAMPLE 22	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM PHOSPHATE	500	2	2.0
EXAMPLE 23	$LiNi_{0.5}Mn_{0.5}O_2$	$Li_{2.9}PO_{3.3}N_{0.36}$	500	2	1.8
EXAMPLE 24	$LiNi_{0.5}Mn_{0.5}O_2$	$Li_2O-B_2O_3$	500	2	1.9
EXAMPLE 25	$LiNi_{0.5}Mn_{0.5}O_2$	$Li_2O-B_2O_3-LiI$	500	3	2.1
EXAMPLE 26	$LiNi_{0.5}Mn_{0.5}O_2$	Li_2S-SiS_2	500	1	1.7
EXAMPLE 27	$LiNi_{0.5}Mn_{0.5}O_2$	$Li_2S-SiS_2-Li_3PO_4$	500	1	1.6
EXAMPLE 28	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM COBALTATE	500	1	1.9
EXAMPLE 29	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM MANGANATE	500	2	2.0
EXAMPLE 30	$LiNi_{0.5}Mn_{0.5}O_2$	$LiFePO_4$	500	3	2.1
EXAMPLE 31	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM HYDROXIDE	500	1	1.8
EXAMPLE 32	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM FLUORIDE	500	1	1.9
EXAMPLE 33	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM ACETATE	500	2	3.0
EXAMPLE 34	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM ACETYLIDE-ETHYLENEDIAMINE	500	3	2.9
EXAMPLE 35	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM BENZOATE	500	1	3.1
EXAMPLE 36	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM BROMIDE	500	1	3.1
EXAMPLE 37	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM CARBONATE	500	2	3.0
EXAMPLE 38	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM NITRATE	500	2	3.2
EXAMPLE 39	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM OXALATE	500	3	3.1
EXAMPLE 40	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM PYRUVATE	500	3	2.9
EXAMPLE 41	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM STEARATE	500	3	2.5
EXAMPLE 42	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM TARTRATE	500	3	2.9
EXAMPLE 86	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM SULFATE	500	2	2.3
COMPARATIVE EXAMPLE 2	$LiNi_{0.5}Mn_{0.5}O_2$	NONE	-	10	3.5

FIG.12

	TYPE OF LiNi OXIDE COMPOSITE USED IN POSITIVE ELECTRODE ACTIVE MATERIAL	Li COMPOUND DEPOSITED	THICKNESS OF Li COMPOUND DEPOSITED(nm)	SWELL RATE OF CELL (%)	CELL'S INTERNAL RESISTANCE INCREASE RATE (%)
EXAMPLE 43	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM PHOSPHATE	1	5	1.3
EXAMPLE 44	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	$Li_{2.9}PO_{3.3}N_{0.36}$	1	6	1.4
EXAMPLE 45	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	Li_2O-B_2O_3	1	5	1.3
EXAMPLE 46	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	Li_2O-B_2O_3-LiI	1	6	1.5
EXAMPLE 47	$LiNi_{0.83}Co_{0.15}Al_{0.0}O_2$	Li_2S-SiS_2	1	5	1.6
EXAMPLE 48	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	Li_2S-SiS_2-Li_3PO_4	1	5	1.4
EXAMPLE 49	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM COBALTATE	1	5	1.5
EXAMPLE 50	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM MANGANATE	1	6	1.3
EXAMPLE 51	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	$LiFePO_4$	1	4	1.4
EXAMPLE 52	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM HYDROXIDE	1	4	1.2
EXAMPLE 53	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM FLUORIDE	1	5	1.6
EXAMPLE 54	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM ACETATE	1	4	1.4
EXAMPLE 55	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM ACETYLIDE-ETHYLENEDIAMINE	1	4	2.3
EXAMPLE 56	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM BENZOATE	1	5	2.4
EXAMPLE 57	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM BROMIDE	1	6	2.2
EXAMPLE 58	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM CARBONATE	1	4	2.6
EXAMPLE 59	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM NITRATE	1	4	2.5
EXAMPLE 60	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM OXALATE	1	4	2.2
EXAMPLE 61	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM PYRUVATE	1	6	2.3
EXAMPLE 62	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM STEARATE	1	6	2.4
EXAMPLE 63	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM TARTRATE	1	5	2.3
EXAMPLE 87	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	LITHIUM SULFATE	1	5	2.1
COMPARATIVE EXAMPLE 3	$LiNi_{0.83}Co_{0.15}Al_{0.02}O_2$	NONE	-	17	2.7

FIG.13

	TYPE OF LiNi OXIDE COMPOSITE USED IN POSITIVE ELECTRODE ACTIVE MATERIAL	Li COMPOUND DEPOSITED	THICKNESS OF Li COMPOUND DEPOSITED(nm)	SWELL RATE OF CELL (%)	CELL'S INTERNAL RESISTANCE INCREASE RATE (%)
EXAMPLE 64	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM PHOSPHATE	1	6	1.4
EXAMPLE 65	$LiNi_{0.5}Mn_{0.5}O_2$	$Li_{2.9}PO_{3.3}N_{0.36}$	1	4	1.2
EXAMPLE 66	$LiNi_{0.5}Mn_{0.5}O_2$	$Li_2O-B_2O_3$	1	4	1.3
EXAMPLE 67	$LiNi_{0.5}Mn_{0.5}O_2$	$Li_2O-B_2O_3-LiI$	1	4	1.4
EXAMPLE 68	$LiNi_{0.5}Mn_{0.5}O_2$	Li_2S-SiS_2	1	6	1.3
EXAMPLE 69	$LiNi_{0.5}Mn_{0.5}O_2$	$Li_2S-SiS_2-Li_3PO_4$	1	6	1.2
EXAMPLE 70	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM COBALTATE	1	5	1.3
EXAMPLE 71	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM MANGANATE	1	4	1.4
EXAMPLE 72	$LiNi_{0.5}Mn_{0.5}O_2$	$LiFePO_4$	1	4	1.2
EXAMPLE 73	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM HYDROXIDE	1	4	1.5
EXAMPLE 74	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM FLUORIDE	1	6	1.2
EXAMPLE 75	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM ACETATE	1	4	2.3
EXAMPLE 76	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM ACETYLIDE-ETHYLENEDIAMINE	1	5	2.4
EXAMPLE 77	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM BENZOATE	1	4	2.3
EXAMPLE 78	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM BROMIDE	1	6	2.2
EXAMPLE 79	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM CARBONATE	1	5	2.5
EXAMPLE 80	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM NITRATE	1	6	2.3
EXAMPLE 81	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM OXALATE	1	5	2.5
EXAMPLE 82	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM PYRUVATE	1	5	2.3
EXAMPLE 83	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM STEARATE	1	5	2.5
EXAMPLE 84	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM TARTRATE	1	6	2.3
EXAMPLE 88	$LiNi_{0.5}Mn_{0.5}O_2$	LITHIUM SULFATE	1	6	2.2
COMPARATIVE EXAMPLE 4	$LiNi_{0.5}Mn_{0.5}O_2$	NONE	-	10	3.5